

CHAPTER 2

RESPONSIBILITIES OF COOPERATING FEDERAL AGENCIES

2.1. General. The Department of Commerce (DOC), through the National Oceanic and Atmospheric Administration (NOAA), is charged with the overall responsibility to implement a responsive, effective national tropical cyclone warning service. Many local, state, and Federal agencies play a vital role in this system; their cooperative efforts help ensure that necessary preparedness actions are taken to minimize loss of life and destruction of property. The joint participation by the Department of Defense (DOD) and the Department of Transportation (DOT) with the DOC brings to bear those limited and expensive Federal resources considered essential for storm detection and accurate forecasting. This cooperative effort has proven to be a cost-effective, highly responsive endeavor to meet national requirements for tropical cyclone warning information.

2.2. DOC Responsibilities.

2.2.1. Forecast and Warning Services. The DOC will provide timely dissemination of forecasts, warnings, and all significant information regarding tropical and subtropical cyclones to the appropriate agencies, marine and aviation interests, and the general public.

2.2.2. Support to DOD. Through NOAA's National Weather Service (NWS), the DOC will:

- Consult, as necessary, with the DOD regarding their day-to-day requirements for forecast/advisory services and attempt to meet these requirements within the capabilities of the tropical cyclone warning service.
- Provide, through the Tropical Prediction Center/National Hurricane Center (TPC/NHC), the coordinated DOC requirements for weather reconnaissance and other meteorological data to be acquired by the DOD on tropical or subtropical cyclones and disturbances.
- Provide facilities, administrative support, and the means to disseminate meteorological data for the Chief, Aerial Reconnaissance Coordination, All Hurricanes (CARCAH) as agreed to by the DOC and DOD.
- Provide the DOD with basic meteorological information, warnings, forecasts, and associated prognostic reasoning concerning location, intensity, and forecast movement of tropical and subtropical cyclones in the following maritime areas, including the adjacent states and possessions of the United States:

- < Atlantic Ocean (north of the equator including the Caribbean Sea and Gulf of Mexico). Advisories are the responsibility of the Director, TPC/NHC, Miami, FL. The TPC/NHC will consult with the Naval Atlantic Meteorology and Oceanography Center (NAVLANTMETOCCEN), Norfolk, VA, prior to issuing initial and final advisories and prior to issuing any advisory that indicates a significant change in forecast of intensity or track from the previous advisory. Exchange of information is encouraged on subsequent warnings when significant changes are made or otherwise required.
- < Eastern Pacific Ocean (north of the equator and east of 140EW). Advisories are the responsibility of the Director, TPC/NHC, Miami, FL. The TPC/NHC will consult with the Joint Typhoon Warning Center (JTWC), Pearl Harbor, HI, prior to issuing initial and final advisories and prior to issuing any advisory that indicates a significant change in forecast of intensity or track from the previous advisory. Exchange of information is encouraged on subsequent warnings when significant changes are made or otherwise required.
- < Central Pacific Ocean (north of the equator between 140EW and 180E). Advisories are the responsibility of the Director, Central Pacific Hurricane Center (CPHC), Honolulu, HI. The CPHC will consult with JTWC prior to issuing initial and final advisories and prior to issuing any advisory that indicates a significant change in forecast of intensity or track from the previous advisory. Exchange of information is encouraged on subsequent warnings when significant changes are made or otherwise required.
- < West Pacific Ocean (Guam and Micronesia). Public advisories are prepared by the NWS Forecast Office, Tiyan, Guam, using the tropical cyclone forecasts/advisories prepared by JTWC.

2.2.3. Post Analysis of Tropical Cyclones. The DOC, through NWS, will conduct an annual post analysis for all tropical cyclones in the Atlantic and the Pacific regions east of 180E and prepare an annual hurricane report for issue to interested agencies.

2.2.4. Environmental Satellite Systems. The National Environmental Satellite, Data, and Information Service (NESDIS) will:

- Operate DOC environmental satellite systems capable of providing coverage of meteorological conditions in the tropics during the tropical cyclone season, and monitor and interpret DOC satellite imagery.

- Obtain, as necessary, National Aeronautics and Space Administration (NASA) research and development satellite data and Defense Meteorological Satellite Program (DMSP) data for NWS operational use and to comply with TPC/NHC and CPHC satellite data requirements.
- *Provide, resources permitting, surveillance support with fixes and/or intensity estimates to the Joint Typhoon Warning Center (JTWC), TPC/NHC, and CPHC through analysis of all available satellite imagery.*

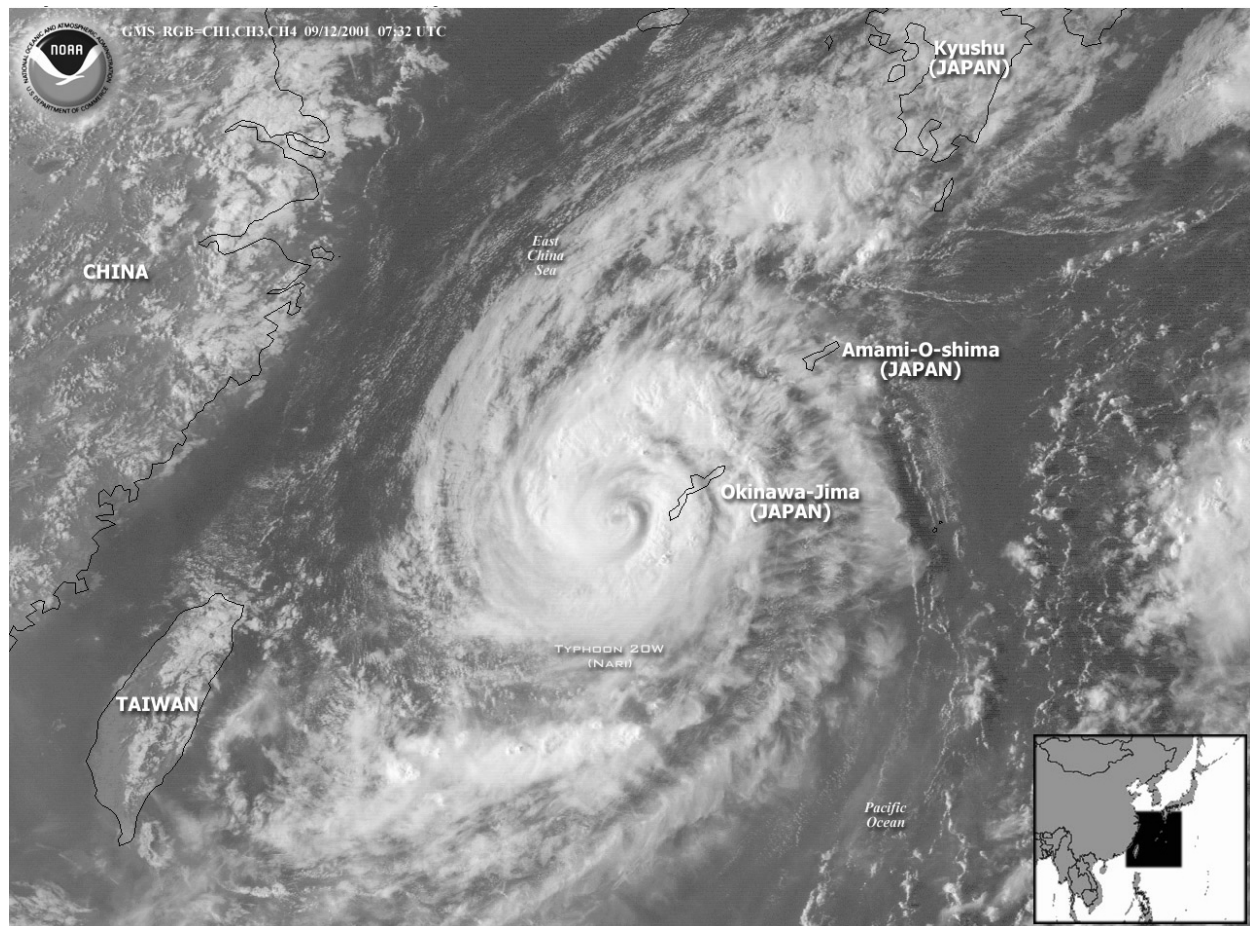


Figure 2-1. Typhoon Nari, September 12, 2001

2.2.5. Data Buoy Systems. Through the National Data Buoy Center (NDBC), the DOC will, subject to available funding, develop, deploy, and operate environmental data buoy systems and automated coastal stations to support the data requirements of TPC/NHC and CPHC.

2.2.6. Weather Reconnaissance. Through the NOAA Office of Marine and Aviation Operations (OMAO), DOC will provide weather reconnaissance flights, including synoptic surveillance, as specified in Chapter 5, unless relieved of these responsibilities by the Administrator of NOAA.

2.3. DOD Responsibilities. The DOD will:

- Disseminate in a timely manner significant meteorological information on tropical and subtropical cyclones to the NWS.
- Provide TPC/NHC and CPHC current DOD requirements for tropical and subtropical cyclone advisories.
- Meet DOC requirements for aircraft reconnaissance and other special observations as agreed to by DOD and DOC (see Appendix C).
- Provide at TPC/NHC a 24-hour aircraft operations interface--Chief, Aerial Reconnaissance Coordination, All Hurricanes (CARCAH).
- Designate CARCAH as the liaison to TPC/NHC. CARCAH will serve as TPC/NHC's point of contact to request special DOD observations in support of this plan; i.e., DMSP fixes, additional upper-air observations, etc.
- Provide weather reconnaissance data monitor services to evaluate and disseminate reconnaissance reports.
- Provide, resources permitting, through the Air Force Weather Agency (AFWA), Offutt AFB, NE, and the *17th Operational Weather Squadron Meteorological Satellite (MetSat) Operations Flight (17 OWS/WXJ)*, *Joint Typhoon Warning Center, Pearl Harbor, HI*, surveillance support with fixes and or intensity and gale-wind estimates to all United States tropical cyclone warning agencies through analysis of satellite imagery obtained primarily from the DMSP system. *AFWA support will typically be world-wide, while the JTWC MetSat Operations Flight support focuses on the Indian Ocean and the Central, South, and Northwest Pacific Ocean.*
- *Western Pacific Ocean (north of the equator): JTWC will provide NWS with basic meteorological information, forecasts, and associated prognostic reasoning, concerning location, intensity and forecast movement of tropical cyclones for the Northwest Pacific west of 180°.*

- < JTWC will consult with the NWS Forecast Office (NWSFO), Tiyan, Guam, regarding all tropical cyclones affecting Micronesia and Guam. Consultation will occur prior to issuing initial and final advisories and prior to issuing any advisory that indicates a significant change in forecast intensity or track from the previous advisory.
- Eastern Pacific Ocean (north of the equator and east of 140° W). DOD advisories are the responsibility of the Director, Joint Typhoon Warning Center (JTWC). JTWC will:
 - < Coordinate with the TPC/NHC prior to issuing a DOD warning or advisory that differs significantly from a TPC/NHC advisory.
 - < Initiate, monitor, and update satellite invest areas on the tropical cyclone satellite websites provided by the Fleet Numerical Meteorology and Oceanography Center (FNMOC) and the Naval Research Laboratory (NRL), Monterey, California. The TPC/NHC will contact JTWC to request initiation of desired invest areas and will provide JTWC numbers for invest areas as required, or when requested by JTWC.
- Central Pacific Ocean (north of the equator between 140°W and 180°). DOD advisories are the responsibility of the Director, JTWC. JTWC will:
 - < Coordinate with the Central Pacific Hurricane Center (CPHC) prior to issuing a DOD warning or advisory that differs significantly from a CPHC advisory.
 - < Initiate, monitor, and update satellite invest areas on the tropical cyclone satellite websites provided by the Fleet Numerical Meteorology and Oceanography Center (FNMOC) and the Naval Research Laboratory (NRL), Monterey, California. The CPHC will contact JTWC to request initiation of desired invest areas and will provide JTWC numbers for invest areas, as required or when requested by JTWC.
- Deploy, through the Naval Oceanographic Office (NAVOCEANO), drifting data buoys in support of Commander-in-Chief, Atlantic Fleet (CINCLANTFLT) requirements.

2.4. DOT Responsibilities.

2.4.1. Information Dissemination. The DOT will provide NWS with timely dissemination of significant information received regarding tropical and subtropical cyclones.

2.4.2. Flight Assistance. Through the Federal Aviation Administration (FAA), the DOT will provide air traffic control, communications, and flight assistance services.

2.4.3. U. S. Coast Guard. The DOT will provide the following through the U.S. Coast Guard:

- Personnel, vessel, and communications support to the NDBC for development, deployment, and operation of moored environmental data buoy systems.
- Surface observations to NWS from its coastal facilities and vessels.
- Communications circuits for relay of weather observations to NWS in selected areas.
- Coastal broadcast facilities at selected locations for tropical storm or hurricane forecasts and warnings.

2.5. Annual Liaison with Other Nations. The DOD, DOC, and DOT will cooperate in arranging an annual trip to the Caribbean and the Gulf of Mexico area to carry out a continuing and effective liaison with the directors of meteorological services, air traffic control agencies, and disaster preparedness agencies of nations in those areas, regarding the provision of tropical cyclone warning services. The Air Force Reserve Command (AFRC) and TPC/NHC jointly have the responsibility to plan and execute this mission, resources permitting. TPC/NHC will coordinate with the meteorological services in the countries to be visited. AFRC will fly the mission and will issue invitational travel orders (ITO) to the TPC/NHC director and staff, other U.S. officials, and the media on a non-interference, non-reimbursable basis.

2.6. Air Traffic Control/Flight Operations Coordination. The operations officers of the principal flying units, the Assistant Manager, Operations, Air Traffic Control System Command Center, Herndon, VA, and the assistant managers for traffic management or assistant manager for military operations, as appropriate, at key Air Route Traffic Control Centers (ARTCC) will maintain a close working relationship on a continuing basis to ensure mission success under actual tropical storm conditions. This will involve visits to each other's facilities, familiarization flights, and telephone and teletype communications to improve the understanding of each other's requirements and capabilities.

2.6.1. Gulf of Mexico Weather Reconnaissance. The 53rd Weather Reconnaissance Squadron and the NOAA Aircraft Operations Center operations officers will maintain a close working relationship with the Air Traffic Control System Command Center, the ARTCCs, and the Fleet Aerial Control and Surveillance Facility (FACSFAC) for the coordination of weather reconnaissance flights in the Gulf of Mexico and over the Caribbean Sea in particular, and in the United States in general. The operations officers will:

- Request the assistance of the appropriate ARTCC/FACSFAC in support of the *National Hurricane Operations Plan*.

- Provide the current operations officer's name and telephone number to the appropriate ARTCC and FACSAC.
- Publish the unit's telephone numbers [Defense Switched Network (DSN)/Commercial] and teletype address code for Service B (Appendix I).

2.6.2. Air Traffic Control Assistance. The Air Traffic Control System Command Center, appropriate ARTCCs, and FACSAC will maintain a close working relationship with the weather reconnaissance units and provide airspace and air traffic control assistance to the extent possible. Those organizations will:

- Provide the current names and telephone numbers of points of contact to the flying units.
- Publish telephone numbers (DSN/Commercial) and teletype code for Service B (Appendix I).